



DOUBLE OAK

Town of Double Oak  
Town Council –Public Meeting

Double Oak Town Hall  
320 Waketon Road, Double Oak  
TX 75077  
Monday, April 4, 2022  
7:00 p.m.

*Out of respect for all those in attendance, please refrain from talking to other members of the audience during the meeting. Please do not engage in disruptive behavior. For public input during Citizen Comment or public hearings, all speakers will be limited to three minutes each. The Council does not accept public comment by mail or e-mail; speakers must be present, or a written statement must be read into the council's record by a speaker who is present at the meeting, subject to the three-minute limit.*

- I. Opening: Call to Order  
Roll Call  
Invocation  
Pledge of Allegiance – American Flag  
Pledge of Allegiance – Texas Flag

*“Honor the Texas flag; I pledge allegiance to thee, Texas, one state under God, one and indivisible.”*

II. Citizen Comments

- III. Consent Agenda - All consent agenda items listed are considered to be routine by the Town Council and will be enacted by one motion. There will be no separate discussion of these items unless a Council Member so requests, in which event the item will be removed from the Consent Agenda and considered in its normal sequence on the agenda. Information concerning consent agenda items is available for public review.

1. Consideration, and action on minutes of March 21, 2022. \*

IV. Mayor, Council Members and Staff reports:

2. Mayor and Council  
3. Public Works - Code Enforcement – Animal Control\*  
4. Administration  
5. Public Safety  
6. Road and Drainage Committee

V. New business agenda (consideration and action):

7. Discussion, consideration, and action on contracting with Cross Timbers Water Supply to paint the Double Oak logo on both sides of the water tower located on FM407 and Simmons Road at approximately \$13,500.\*

Presentation:

Mayor Beougher

8. Discussion, consideration, and action on a request from Sigma Sign Company to allow an exception under the Sign Regulations, Section 3.1302(6)(C)(vi)(2) Maximum Size to allow a larger height of the sign and larger maximum square footage of the sign then allowed in the sign ordinance.\*

Presentation: Assistant Town Secretary Lynn Jones

9. Discussion on homestead exemption for elderly or disabled persons and homestead tax freeze for elderly or disabled persons

Presentation: Town Treasurer Garrett

10. Discussion, consideration, and action on a revised quote from All-Out Concrete for repairs to Brittain Lane per town's engineer's recommendations.\*

Presentation: Mayor Beougher

11. Council – staff announcements and comments:

- May 7, 2022, Municipal Election Day

The following candidates have filed for a place on the ballot:

COUNCIL MEMBER (3 SEATS)

Billie Garrett  
Tim Bologna  
Patrick Johnson  
Jean Hillyer  
Connie Schoenrade

- Town Hall will be an early voting site for the May 7, 2022, Municipal Election.

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|               |   |
|---------------|---|
| April 25 - 30 | Monday - Saturday 8:00 a.m. – 5:00 p.m. |
| May 1         | Sunday 11:00 a.m. – 5:00 p.m.           |
| May 2 – 3     | Monday - Tuesday 7:00 a.m. – 7:00 p.m.  |

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12. Adjournment

As authorized by Section 551.071 of the Texas Government Code, this meeting may be convened into closed Executive Session for the purpose of seeking confidential legal advice from the Town Attorney, or on any other item covered under the code, on any agenda item listed herein.

The Town of Double Oak reserves the right to reconvene, recess or realign the Regular Session or called Executive Session or order of business at any time prior to adjournment.

I certify that the above notice of meeting was posted by Friday, March 18, 2022, by 4:00 p.m. on:

- 1) Bulletin board located to the right of the front door at Town Hall, 320 Waketon Road, Double Oak, Texas
- 2) On the Town's website (<https://doubleoak.texas.gov>)

*Eileen Kennedy*

Town Secretary

**PUBLIC PARTICIPATION** If you wish to address the Council, please sign the "CITIZENS WHO WISH TO SPEAK TO THE TOWN COUNCIL" sheet before the meeting begins. Pursuant to Section 551.007 of the Texas Government Code, citizens wishing to address the Council for items listed as public hearings will be recognized when the public hearing is opened. For citizens wishing to speak on a non-public hearing item, they may either address the Council during the Citizen Comments portion of the meeting or when the Town Council considers the item.

This facility is wheelchair accessible and accessible parking spaces are available. Requests for accommodations or interpretive services must be made 48 hours prior to this meeting. Please contact the Town Secretary's office at 972.539.9464, fax 972.539.9613 or email to [eileen.kennedy@doubleoak.texas.gov](mailto:eileen.kennedy@doubleoak.texas.gov) for additional information.

\* Backup attached

# UNAPPROVED-NOT FOR PUBLICATION

STATE OF TEXAS  
COUNTY OF DENTON  
TOWN OF DOUBLE OAK

The Double Oak Town Council met in regular session at 7:00 p.m. March 21, 2022, at the Double Oak Town Hall, located at 320 Waketon Road with the following members present to-wit:

|                |                |
|----------------|----------------|
| Von Beougher   | Mayor          |
| Billie Garrett | Mayor Pro-Tem  |
| Joe Dent       | Council Member |
| Casey Parsons  | Council Member |

Deputy Mayor Pro-Tem Anita Nelson and Council Member Scott Whisenhunt were absent. Also in attendance was Town Secretary Eileen Kennedy and Police Chief Ruben Rivas.

Mayor Beougher called the meeting to order at 7:00 p.m.

Council Member Dent gave the invocation and Council Member Parsons lead the pledge of allegiance to the American and Texas flags.

## II. Citizen Comments

Chris Engel, 330 Lake Trail Ct., voiced his concerns regarding an unnecessary stop sign at Lake Trail St. and Lake Trail Dr. Suggested a yield sign.

Katy Grote, 165 Double Oaks Dr., has concerns regarding traffic on Kings Road and Simmons with the new Flower Mound development on Cummings Ranch. She would like for council to contact Flower Mound and voice traffic concerns.

## III. Consent Agenda - All consent agenda items listed are considered to be routine by the Town Council and will be enacted by one motion. There will be no separate discussion of these items unless a Council Member so requests, in which event the item will be removed from the Consent Agenda and considered in its normal sequence on the agenda. Information concerning consent agenda items is available for public review.

### 1. Consideration, and action on minutes of March 7, 2022.\*

Motion Parsons, second Dent to approve the minutes of March 7, 2022, as corrected.

AYE: Garrett, Dent, Parsons  
NAY: None  
ABSTAIN: None

Motion Carried

IV. Mayor, Council Members and Staff reports:

2. Mayor and Council – Council Member Parsons voiced concerns with drivers going the wrong way on Waketon Road during the construction.
3. Public Works - Code Enforcement – Animal Control – From Code Enforcement, Good Donuts sign is still in the R-O-W. Animal Control-none
4. Administration - None
5. Public Safety– DOPD-Chief Rivas reported that Tim Henderson has completed his training and have a good candidate to fill one of the vacancies; DOVFD- None
6. Road and Drainage Committee–Mayor Beougher reported he and Dr. Goodman, Chairman of Roads and Drainage Committee, is meeting to look at roads to submit to Denton County for the bond election. Dr. Goodman commented the committee has decided on roads to evaluate and will meet to decide and roads to present to Council.

V. New business agenda (consideration and action):

7. Discussion, consideration, and action on a resolution establishing fund balance policies.

Motion Parsons, second Dent to approve the resolution establishing a fund balance policy.

AYE: Parsons, Garrett, Dent  
NAY: None  
ABSTAIN: None

Motion Carried

8. Discussion, consideration, and action on 2020-2021 audit report

Town Auditor, Carl Deaton, presented the 2020-2021 annual audit report.

Motion Dent, second Parsons to accept the 2020-2021 annual audit report.

AYE: Dent, Garrett, Parsons  
NAY: None  
ABSTAIN: None

Motion Carried

9. Review of February 2022 Y-T-D Financial Report.

Town Treasurer, Billie Garrett, went over the current 2021-2022 fiscal year financial report.

10. Discussion on homestead exemption for elderly or disabled persons and homestead tax freeze for elderly or disabled persons.

Town Treasurer, Billie Garrett, reported she has been in communication with Denton Central Appraisal District regarding a tax freeze. Ms. Garrett will keep researching.

11. Discussion on the use of CLFRF funds.

Mayor Beougher commented that the Town should use the CLFRF funds as set forth in the U.S. Treasury's final rule.

12. Discussion, consideration, and action on road projects to be submitted to Denton County for the 2022 Denton County Road Bond.

The Mayor and Council would like to see Shiloh and McMakin roads on the Denton County Bond Project.

No action taken.

13. Discussion, consideration, and action on a request from Sigma Sign Company to allow an exception under the Sign Regulations, Section 3.1302(6)(C)(vi)(2) Maximum Size to allow a larger height of the sign and larger maximum square footage of the sign than allowed in the sign ordinance.

Council member Dent would like to see the sign as the same height as the Sherwin Williams.

Item tabled and moved to the April 4, 2022, council meeting.

14. Discussion, consideration, and action on a revised quote from All-Out Concrete for repairs to Brittain Lane per town's engineer's recommendations.

Connie Schoenrade, 203 Colonial Court, asked for the entire road fixed.

Mike Short, 204 Colonial Court, would like for the road to remain bricked and sees the road as an asset to the town.

No action taken.

15. Discussion, consideration, and action on the purchase of cubicle panels for the Building Inspections/Public Services Coordinator.

Motion Dent, second Garrett to approve the purchase of cubicle panels for the Building Inspections/Public Services Coordinator area in an amount not to exceed \$3,000.

AYE: Dent, Garrett, Parsons  
NAY: None  
ABSTAIN: None

Motion Carried

16. Council – staff announcements and comments:

- May 7, 2022, Municipal Election Day

The following candidates have filed for a place on the ballot:

COUNCIL MEMBER (3 SEATS)

Billie Garrett  
Tim Bologna  
Patrick Johnson  
Jean Hillyer  
Connie Schoenrade

- Bonnie Morrow, 105 N. Forest, Double Oak Women’s Club, announced they will have a garage sale to replenish the club’s funds on May 14 at Town Hall.
- Billie Garrett announced the DOWC Easter Egg Hunt and Pancake Breakfast will be April 9, 2022, in the J.B. Wright Park.

17. Adjournment

With no further business to come before the Council, motion Dent, second Parsons, the meeting was adjourned at 8:42 p.m.

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Eileen Kennedy, Town Secretary

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Von Beougher, Mayor



**Industrial Painting, Ice Blasting, Media Blasting,  
 Steam Cleaning, Welding & Lead Abatement**  
 1265 Hwy 250 S, Hughes Springs, Tx 75656  
 Phone 903-639-1022 Fax 903-639-1225  
 James Israel Cell 903-720-6708  
 Website- [Jacoatings.com](http://Jacoatings.com)

|   |                                    |                        |  |                             |
|---|------------------------------------|------------------------|--|-----------------------------|
| <b>Proposal Submitted to: Chad Wolf-GM Crosstimbers WSC</b> |                                    |                        | <b>Phone: 817-819-6159</b>                                     | <b>Date: March 31, 2022</b> |
| <b>Street: 2032 East Hickory Hill Rd.</b>                   |                                    |                        | <b>Project Name: 500,000gl Golf Ball Water Tower- Exterior</b> |                             |
| <b>City: Argyle</b>   | <b>State: TX.</b>                  | <b>Zip Code: 76226</b> | <b>Tank Location: 7495 Justin Rd. 75077</b>                    |                             |
| <b>Submitted by: J&amp;A Coatings</b>                       | <b>Quote# CrosstimbRV203312022</b> |                        | <b>Contact: David Bouknight</b>                                | <b>Phone: 903-639-1022</b>  |

J&A Coating, LLC agrees to provide all labor, equipment, and materials needed to complete the following work:

- 1. Logo (2 sides)-\$11,000.00**
- 1. Logo graphics additional cost. \$2,500.00**

We hereby propose to furnish material and labor for the sum of: (Not including applicable sales tax.)  
**\$13,500.00**

Payment to be made as follows  
**1/2 down for materials/mobilization. Balance upon completion of job.**

All material is guaranteed to be as specified. All work to be completed in a substantial workmanlike manner according to specifications submitted, per standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon accidents or delays beyond our control.

**Company Signature:**

**Note: This proposal may be withdrawn by us if not accepted within THIRTY (30) days.**

Acceptance of Proposal: The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

**Date of Acceptance:** \_\_\_\_\_

**Signature:** \_\_\_\_\_





## DOUBLE OAK

**Permit #:** 2022038

**Permit Date:** 03/10/22

**Permit Type:** Sign

**Applicant Name:** Robynn Rushing

**Applicant Address:** 1590 E Hwy 121 Suite B3-100

**Applicant City, State, ZIP:** Lewisville

**Applicant Phone Number:** 9723174467

**Applicant Email:** permits@sigmasignco.com

**Description:** Install 1 standard lit channel letter set Medical Massage

**Square Feet:** 0

**Accessory Building Size:**

**Type of Building:**

**Permanent Foundation:**

**Utilities:**

**Utilities to be Disconnected:**

**Project Size:**

**Type of Fence:**

**Fence Material:**

**Roof Material:**

**Status:** Pending Review

**Assigned To:** Steve Koehler

### Property

| Parcel # | Address        | Legal Description                   | Owner Name     | Owner Phone | Zoning   |
|----------|----------------|-------------------------------------|----------------|-------------|----------|
| 273087   | 8401 JUSTIN RD | CROSSROADS BIBLE CHURCH BLK A LOT 4 | RJS MARINE INC |             | Business |

### Contractors

| Contractor         | Primary Contact | Phone        | Address                   | Contractor Type | License | License # |
|--------------------|-----------------|--------------|---------------------------|-----------------|---------|-----------|
| Sigma Sign Company | Robynn Rushing  | 972-317-4467 | 1590 E Hwy 121 Ste B3-100 |                 |         |           |

### Uploaded Files

| Date       | File Name  |
|------------|--|
| 03/10/2022 | <a href="#">ea4e249206680e6ed58cfabad55b67d8_aerial_no_building.pdf</a>          |
| 03/10/2022 | <a href="#">23ebf1574a04045f8e424fb09c12d215_medicalmassage_permit_final.pdf</a> |

# SIGMA SIGN CO.

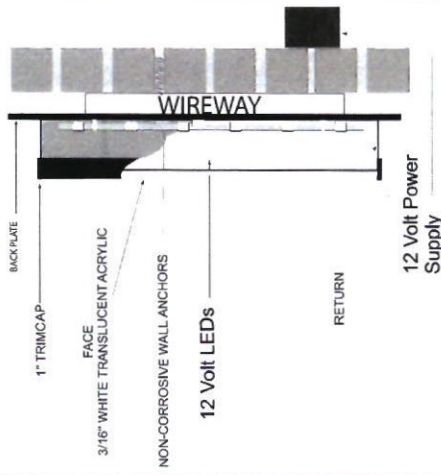
1590 E State Hwy 121 Bus, Ste 3-100, Lewisville, TX 75056  
972-317-4467 [www.SigmaSignCo.com](http://www.SigmaSignCo.com)

**Customer:** Medical Massage  
**Address:** 8401 FM 407, Ste 108  
**City, St, Zip:** Double Oak, TX 75077  
**Contact:** Jeremy Rauhauser  
**Designer:** DE **Date:** 2/8/2022

This drawing is the property of SIGMA Sign Co. which reserves all rights to its reproduction and display.

## SIGN DESCRIPTION

**"STANDARD-LIT" CHANNEL LETTER WITH BACKPLATE & WIREWAY**



Raceway: black, shape/contour cut



SIGNS TO BE MANUFACTURED TO ALL SPECIFICATIONS AND WILL BEAR THE UL LABEL(S) IN ACCORDANCE WITH NATIONAL ELECTRIC CODES

### ELECTRICAL NOTES

- 1. Sign Company DOES NOT provide primary electrical to sign.
- Final Electrical Connection WILL BE PROVIDED by certified sign electrician
- Each sign must have:
  1. A minimum of one dedicated 120V, 20A circuit.
  2. Junction box installed within 6 feet of sign.
  3. Three wires: Line, Ground, Neutral.

63.28 ft  
total

Scale: nts



56"

41.66 ft

163" 13.58 ft

Scale: 1 in = 1 ft



TENANT SUITE WIDTH = 28.5ft

## ARTICLE 3.1300 SIGN REGULATIONS \*

### Sec. 3.1302 Classification of Signs

- (6) Permanent - Commercial Class III.
- (C) Structural Types of Signs.
- (vi) Building Wall-Mounted Signs

2. Maximum size. All signs shall be limited to two-thirds ( $2/3$ 's) of the width of the building (or leased space) frontage or face. A building wall-mounted sign can be no more than 3 feet in height at any point. Building wall-mounted signs shall be limited to a maximum of 40 square feet of building signage as measured by the area of the smallest rectangle that encloses the sign. (Canopies, awnings, or marquees will be included in the maximum 40 square feet allowed.) The building wall-mounted sign may not protrude above the roofline or parapet at any point along the building exterior or project more than 12 inches from the building.

**HALFF ASSOCIATES, Inc.**  
 4000 Fossil Creek Boulevard  
 Fort Worth, Texas 76137  
 (817) 847-1422

CLIENT: Town of Double Oak  
 PROJECT: Brittain Lane

FILE NAME:  
 DATE:

CIP Costs for Brittain Lane.xlsx  
 4/1/2022

PREPARED BY: SDT  
 AVO: 37946

**ENGINEERS OPINION OF PROBABLE CONSTRUCTION COST**  
 4/1/2022

| Item No.  | Description  | Unit | Total Quantity | Unit Cost   | Total Amount     |
|---|--|------|----------------|-------------|------------------|
| <b>Brittain Lane - Alternate 1</b>                            |  |      |                |             |                  |
| 1   | Start-Up (Bonds, Insurance, Move-In) Note: This Item may not exceed 5% of the Grand Total Bid Amount | LS   | 1              | \$11,000    | \$11,000         |
| 2   | Temporary Traffic Control Including Barriers, Barricades and/or Detour Signs                         | LS   | 1              | \$6,000.00  | \$6,000          |
| 3   | General Site Preparation   | LS   | 1              | \$11,000.00 | \$11,000         |
| 4   | Remove Storm Drain Pipe (Various Sizes and Materials)  | LF   | 24             | \$55.00     | \$1,320          |
| 5   | Sawcut and Remove Brick Pavement and Flatwork  | SF   | 6,480          | \$5.00      | \$32,400         |
| 6   | Erosion Control Measures and Joint Storm Water Pollution Prevention Plan                             | LS   | 1              | \$3,800.00  | \$3,800          |
| 7   | Unclassified Excavation  | CY   | 120            | \$45.00     | \$5,400          |
| 8   | 8" Reinforced Concrete Pavement with Stained Brick Pattern   | SY   | 720            | \$185.00    | \$133,200        |
| 9   | 6" Cement Stabilized Subgrade  | SY   | 720            | \$15.00     | \$10,800         |
| 10  | Furnish Cement (23 lbs/SY)   | TON  | 8              | \$294.92    | \$2,442          |
| 11  | Anchorage Joint  | LF   | 870            | \$20.00     | \$17,400         |
| 12  | 24" RCP for Driveway Culvert   | LF   | 24             | \$150.00    | \$3,600          |
|   | Subtotal - Brittain Lane   |      |                |             | \$238,362        |
|   | 20% Construction Contingency   |      |                |             | \$47,672         |
|   | <b>Construction Subtotal - Brittain Lane</b>   |      |                |             | <b>\$286,034</b> |
|   | 20% Engineering Fees   |      |                |             | \$57,207         |
|   | 8% Inspection Fees   |      |                |             | \$22,883         |
|   | 4% Testing   |      |                |             | \$11,441         |
|   | <b>Rounded Total - Brittain Lane</b>   |      |                |             | <b>\$378,000</b> |
| <b>Brittain Lane - Alternate 2 - Removing Concrete Ribbon</b> |  |      |                |             |                  |
| 1   | Start-Up (Bonds, Insurance, Move-In) Note: This Item may not exceed 5% of the Grand Total Bid Amount | LS   | 1              | \$13,000    | \$13,000         |
| 2   | Temporary Traffic Control Including Barriers, Barricades and/or Detour Signs                         | LS   | 1              | \$6,000.00  | \$6,000          |
| 3   | General Site Preparation   | LS   | 1              | \$12,000.00 | \$12,000         |
| 4   | Remove Storm Drain Pipe (Various Sizes and Materials)  | LF   | 24             | \$55.00     | \$1,320          |
| 5   | Sawcut and Remove Concrete Ribbon  | SF   | 1,215          | \$5.76      | \$6,994          |
| 6   | Sawcut and Remove Brick Pavement and Flatwork  | SF   | 6,480          | \$5.00      | \$32,400         |
| 7   | Erosion Control Measures and Joint Storm Water Pollution Prevention Plan                             | LS   | 1              | \$3,800.00  | \$3,800          |
| 8   | 4" Topsoil and Hydromulch Seeding  | SY   | 540            | \$15.00     | \$8,100          |
| 9   | Unclassified Excavation  | CY   | 120            | \$42.60     | \$5,112          |
| 10  | 8" Reinforced Concrete Pavement with Stained Brick Pattern   | SY   | 855            | \$185.00    | \$158,175        |
| 11  | 6" Cement Stabilized Subgrade  | SY   | 945            | \$15.00     | \$14,175         |
| 12  | Furnish Cement (23 lbs/SY)   | TON  | 11             | \$294.92    | \$3,205          |
| 13  | 24" RCP for Driveway Culvert   | LF   | 24             | \$150.00    | \$3,600          |
| 14  | 5" Concrete Driveway   | SF   | 100            | \$25.00     | \$2,500          |
|   | Subtotal - Brittain Lane   |      |                |             | \$270,382        |
|   | 20% Construction Contingency   |      |                |             | \$54,076         |
|   | <b>Construction Subtotal - Brittain Lane</b>   |      |                |             | <b>\$324,458</b> |
|   | 20% Engineering Fees   |      |                |             | \$64,892         |
|   | 8% Inspection Fees   |      |                |             | \$25,957         |
|   | 4% Testing   |      |                |             | \$12,978         |
|   | <b>Rounded Total - Brittain Lane</b>   |      |                |             | <b>\$428,000</b> |

This statement was prepared utilizing standard cost estimate practices. It is understood and agreed that this is an estimate only, and that Engineer shall not be liable to Owner or to a third party for any failure to accurately estimate the cost of the project, or any part thereof.

# All-Out Concrete

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Quote: 345649

01/24/2022

**Town of Double Oak**  
**320 Waketon Rd.**  
**Double Oak, TX 75077**

**Project Location:**  
**Brittain Ln.**  
**Double Oak, TX 75077**

**Description: Repair Brick Road**

|                                      |                |
|--------------------------------------|----------------|
|                                      | <b>\$2,200</b> |
| Per Engineers upgrade reccomendation | \$500.00       |
|                                      | Total \$2700   |

Quote excludes the following: Permits, bonds, labs, barricades, soil stabilization of any kind, signage, sealing, striping, and surveying. All-Out Concrete is not responsible for damage to any unknown and/or underground obstructions (e.g. sprinkler systems). Prices are good for 30 days only. All-Out Concrete extends a one-year warranty on concrete work for unseen damages but does not warranty stress cracks that are due to soil movement or tree roots. Payment due the day concrete is poured.

\_\_\_\_\_  
Customer Signature

\_\_\_\_\_  
Watson Timmons, Owner All-Out Concrete

**From:** Templer, Steve [REDACTED]

**To:** Bill Izor [REDACTED]

**Cc:** Eileen Kennedy eileen.kennedy@doubleoak.texas.gov, Lynn Jones  
lynn.jones@doubleoak.texas.gov, Von Beougher von.beougher@doubleoak.texas.gov

**Date:** Mon, Mar 7, 2022, 5:03 PM

 ITEM 301 SUBGRADE, SUBBASE, AND BASE PREPARATION.PDF 12.5 MB

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CAUTION: [EXTERNAL EMAIL]

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Bill,

At today's site visit we saw the subgrade is heaving and settling throughout the length of Brittain Drive causing the brick pavers to move quite a bit. There is one spot on Brittain Drive near Colonial Court where the subgrade was obviously failed causing the brick pavers to sink down. This condition has made it difficult for the firetruck to access this roadway. The Town has been in contact with a contractor and has received a bid to perform maintenance at this location. The maintenance entails removing the brick, placing and compacting sand to the correct level and placing the bricks back into place. Although this solution will fix the problem, my concern is it will not fix the subgrade and the bricks will settle. It is impossible to say how long this repair will last and it would be the least expensive repair. My suggestion is to remove the bricks and sand in the area that is failing and place a blend of concrete and sand (6-inch minimum depth). On top of this stabilized sand have the contractor place a 2 inch sand cushion and place the bricks on top of it. The concrete/sand mixture will harden and create a stabilized subgrade that will last much longer than the previous solution.

I am attaching a specification for concrete/sand mix to give to the contractor for pricing. Utilize Item 301.3.3 with a concrete rate of 2-sacks per cubic yard.

Thank you,

**Steve Templer, PE**

Public Works Senior Project Manager

Halff Associates, Inc.

Phone: (817) 764-7480

**301.3.2. Equipment.** All equipment necessary to properly prosecute, perform and complete the work within the contract time shall be on the project and shall be approved by the OWNER as to type and condition before the CONTRACTOR shall be permitted to begin construction operations on which the equipment is to be used.

The cement-modified soil layer may be constructed with any machine or combination of machines and auxiliary equipment that shall produce the results meeting the requirements for soil pulverization, cement application, water application, mixing, incorporation of materials, compaction, finishing and curing as specified herein. The CONTRACTOR shall at all times provide sufficient equipment to enable continuous performance of the work and its completion in the required number of working days.

**301.3.3. Portland Cement Treatment Construction Methods.**

**301.3.3.1. General.** The primary requirement of this specification is to secure a complete course of treated material containing a uniform Portland cement mixture, free from loose or segregated areas, of uniform density and moisture content, well bound and compacted for its full depth with a smooth surface suitable for placing additional subbase, base or surface courses. It shall be the responsibility of the CONTRACTOR to regulate the sequence of work, to process a sufficient quantity of material so as to provide full depth as shown on plans, to use the proper amount of Portland cement, maintain the work and to rework the courses as necessary to meet the foregoing requirements.

Cement stabilized base shall not be mixed or placed when the air temperature is below 40°F (5°C) and falling, but may be mixed or placed with the air temperature is above 35°F (2°C) and rising, the temperature being taken in the shade and away from artificial heat, and with the further provisions that cement stabilized base shall be mixed or placed only when weather conditions, in the opinion of the OWNER, are suitable.

**301.3.3.2. Treatment for Materials-In-Place.** Before other construction operations are begun, the roadbed shall be graded and shaped as required to construct the Portland cement treatment for material in place in conformance with the lines, grades, thickness and typical cross sections shown on the plans. Unsuitable soil or material shall be removed and replaced with acceptable soil. The subgrade shall be firm and able to support without displacement the construction equipment and achieve the compaction herein specified. Soft or yielding subgrade shall be corrected and made stable before construction proceeds.

The soil and/or recycled asphalt pavement shall be so pulverized that at the completion of moist-mixing, it meets the gradation in Table 301.3.3.2.(a) Cement Treated Materials-In-Place.

**Table 301.3.3.2.(a) Cement Treated Materials-In-Place**

| Sieve Size     | Minimum Passing by Dry Weight <sup>1,2</sup> |
|----------------|--|
| 1-in. (25mm)   | 100%   |
| No. 4 (4.75mm) | 80%  |

1. Exclusive of gravel or stone retained on these sieves.

2. Recycled asphalt pavement shall be pulverized so that 100-percent shall pass a 2-in. (50mm) sieve.

**301.3.3.2.1. Application of Cement to Materials-In-Place.** Portland cement shall be spread by an approved dry or slurry method uniformly on the soil at the rate specified on the plans or as determined by preliminary laboratory tests. If a bulk cement spreader is used, it shall be positioned by string lines or other approved method during spreading to insure a uniform distribution of cement. Cement shall be applied only to such an area that all the operations can be continuous and completed in daylight within 6-hours of such application.

The percentage of moisture in the soil at the time of cement application shall not exceed the quantity that shall permit uniform and intimate mixture of soil and cement during dry-mixing operations, and it shall not exceed the specified optimum moisture content for the soil and cement mixture. In the event of high soil-moisture contents, cement may be applied at one-half the specified rate when approved by the Engineer. The remainder of the application rate of cement shall be applied the following day(s), not to exceed 48-hours. The usual construction sequence shall then be resumed.

No equipment, except that used in the spreading and mixing, shall be allowed to pass over the freshly spread cement until it is mixed with the soil.

**301.3.3.2.2. Mixing and Processing of Stabilized Materials-In-Place.** Any method used to achieve the specified results is acceptable. Mixing shall continue until a homogeneous, friable mixture of the material and cement is obtained, free from all clods or lumps. The mixture shall be kept within moisture tolerances throughout the operation.

**301.3.3.2.3. Compaction and Finishing of Stabilized Materials-In-Place.** Compaction shall begin after mixing and after gradation and moisture requirements have been met. The material shall be compacted to